

## **REMARKS**

In the Office Action, claims 1-35 and 40-44 were pending and rejected. Claims 36-39 have been withdrawn from consideration. Claims 1-35 and 40-44 are presented in the current application.

Claims 1, 23, and 34 have been amended to clarify the novelty of the present invention. The amended claims above do not contain new matter. The subject matter of the amendments can be found at page 7, lines 24-25 of the specification and in the originally filed claims among other places. Applicants respectfully request admission of amended claims 1, 23, 34 and 35. Claim 35 was amended to correct a punctuation error.

### **I. Rejections under 35 U.S.C. § 102**

#### **A. Rejection over US Patent No. 5,780,372 ("Higby")**

In the Office Action at page 2, last paragraph, claims 1-35, 40, and 41 were rejected under 35 U.S.C. § 102(e) as being anticipated by Higby. The Examiner stated that since the composition of Higby is the same as those of the claimed invention, it follows that the glasses of Higby would inherently possess the same total solar infrared transmittance and total solar energy transmittance properties. Applicants respectfully traverse the rejection.

##### **1. The Present Invention**

The present invention is a blue colored glass. More particularly as recited in amended claim 1, the present invention is a blue colored, infrared and ultraviolet radiation absorbing glass composition having a composition comprising a base glass portion comprising:

SiO <sub>2</sub>	66 to 75 percent by weight,
Na <sub>2</sub> O	10 to 20 percent by weight,
CaO	5 to 15 percent by weight,
MgO	0 to 5 percent by weight,
Al <sub>2</sub> O <sub>3</sub>	0 to 5 percent by weight, and
K <sub>2</sub> O	0 to 5 percent by weight,

and a primary solar radiation absorbing and colorant portion consisting essentially of:

total iron	0.6 to 2 percent by weight,
FeO	0.15 to 0.65 percent by weight,

CoO	30 to 250 PPM,
Se	1 to 15 PPM,
TiO <sub>2</sub>	0 to 0.9 percent by weight, and
Nd <sub>2</sub> O <sub>3</sub>	0 to 3 percent by weight

the glass having a redox in the range of 0.15 to 0.58, wherein at a redox range from 0.15 to 0.4, the range of CoO is from 60 to 250 PPM, and wherein at a redox range greater than 0.4, the CoO is in the range of 30 to 100 PPM, and wherein at a thickness of 0.160 inches, the glass has a luminous transmittance (LTA) of 35% up to 70%, and a color characterized by a dominant wavelength in the range of 479 to 495 nanometers and an excitation purity of at least 4%.

The present invention as recited in amended claim 23 is a blue colored, infrared and ultraviolet radiation absorbing glass composition having a composition comprising a base glass portion comprising:

SiO <sub>2</sub>	66 to 75 percent by weight,
Na <sub>2</sub> O	10 to 20 percent by weight,
CaO	5 to 15 percent by weight,
MgO	0 to 5 percent by weight,
Al <sub>2</sub> O <sub>3</sub>	0 to 5 percent by weight, and
K <sub>2</sub> O	0 to 5 percent by weight,

and a primary solar radiation absorbing and colorant portion consisting essentially of:

	total iron	0.6 to 2 percent by weight,
FeO	0.15 to 0.65 percent by weight,	
CoO	30 to 250 PPM,	
Se	1 to 15 PPM,	
TiO <sub>2</sub>	0 to 0.9 percent by weight, and	
Nd <sub>2</sub> O <sub>3</sub>	0 to 3 percent by weight,	

the glass having a redox in the range of 0.15 to 0.55, wherein at a redox range from 0.15 to 0.4, the range of CoO is from 60 to 250 PPM, and wherein at a redox range greater than 0.4, the CoO is in the range of 30 to 100 PPM and wherein at a thickness of 0.154 inches the glass has: a luminous transmittance (LTA) of 35% up to 60%, a total solar ultraviolet transmittance (TSUV) of 55 percent or less, a total solar infrared transmittance (TSIR) of 35 percent or less, a total solar energy (TSET) transmittance of 55 percent or

less; and a color characterized by a dominant wavelength in the range of 479 to 495 nanometers and an excitation purity of at least 4%.

The present invention as recited in amended claim 34 is an automotive transparent glazing panel comprising at least one transparent panel selected from side and back transparent panels that is a blue colored, infrared and ultraviolet radiation absorbing glass composition having a composition comprising a base glass portion, comprising:

SiO <sub>2</sub>	66 to 75 percent by weight,
Na <sub>2</sub> O	10 to 20 percent by weight,
CaO	5 to 15 percent by weight,
MgO	0 to 5 percent by weight,
Al <sub>2</sub> O <sub>3</sub>	0 to 5 percent by weight, and
K <sub>2</sub> O	0 to 5 percent by weight,

and a primary solar radiation absorbing and colorant portion consisting essentially of:

total iron	0.6 to 2 percent by weight,
FeO	0.15 to 0.65 percent by weight,
CoO	30 to 250 PPM,
Se	1 to 15 PPM,
Nd <sub>2</sub> O <sub>3</sub>	0 to 3 percent by weight, and
TiO <sub>2</sub>	0 to 0.9 percent by weight,

the glass having a redox in the range of 0.15 to 0.58, wherein at a redox range from 0.15 to 0.4, the range of CoO is from 60 to 250 PPM, and wherein at a redox range greater than 0.4, the CoO is in the range of 30 to 100 PPM and wherein the glass has a luminous transmittance (LTA) of 35% up to 60%, and a color characterized by a dominant wavelength in the range of 479 to 495 nanometers and an excitation purity of at least 4% at a thickness of 0.160 inches wherein the glazing panel has a thickness in the range of 1.5 to 10 millimeters.

## **2. The Higby Reference**

The Higby reference teaches a glass composition having a base glass composition and colorants consisting essentially of from about 1 to about 3 weight percent Fe<sub>2</sub>O<sub>3</sub> (total iron), from about 0.1 to about 1.0 weight percent TiO<sub>2</sub>, and from about 0 to about 500 PPM Co<sub>3</sub>O<sub>4</sub>.

### **3. Traversal of the Rejection**

To anticipate a claim, a single source must contain all of the elements of the claim. See Hybritech Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 1379, 231 U.S.P.Q. 81, 90 (Fed. Cir. 1986).

Amended claim 1 is a blue colored, infrared and ultraviolet radiation absorbing glass composition having a composition comprising a primary solar radiation absorbing and colorant portion as described above. In contrast to the present invention, Higby does not disclose a glass composition having a primary solar radiation absorbing and colorant portion that contains selenium as well as other compounds. In a previous response, the Examiner did not find this argument persuasive because Applicants used "up to" language which the Examiner stated includes zero as a lower limit. In response to the Examiner's remark, Applicants have amended claim 1 to positively recite a selenium component of at least 1 PPM.

Further, Higby does not disclose the glass composition of claim 1 having specified properties such as a luminous transmittance of 35% up to 70%.

Because Higby does not disclose each and every element in claim 1, Higby cannot anticipate the glass composition recited in claim 1. As a result, Applicants respectfully request the withdrawal of the rejection of claim 1 under 35 U.S.C. § 102(e).

Claims 2-22, 40 and 41 directly or indirectly depend on claim 1 and recite the present invention in varying scope. There is nothing in Higby that teaches or discloses the invention as recited in claim 1, as further limited by claims 2-22, 40 and 41. As a result, claims 2-22, 40 and 41 are not anticipated by the reference of record. Applicants respectfully request the withdrawal of the rejection of claims 2-22, 40 and 41 under 35 U.S.C. § 102(e).

Amended claim 23 is a blue colored, infrared and ultraviolet radiation absorbing glass composition having a composition comprising a primary solar radiation absorbing and colorant portion as described above. Similarly to the above, Higby does not disclose a glass composition having a primary solar radiation absorbing and colorant portion that contains selenium as well as other compounds. Further, Higby does not disclose the glass

composition of claim 23 having the following properties at a thickness of 0.154 inches: a total solar infrared transmittance of 35 percent or less and a total solar energy transmittance of 55 percent or less.

Because Higby does not disclose each and every element in claim 23, Applicants respectfully request the withdrawal of the rejection of claim 23 under 35 U.S.C. § 102(e).

Claims 24-33 directly or indirectly depend on claim 23 and recite the present invention in varying scope. There is nothing in Higby that teaches or discloses the invention as recited in claim 23, as further limited by claims 24-33. As a result, claims 24-33 are not anticipated by the reference of record. Applicants respectfully request the withdrawal of the rejection of claims 24-33 under 35 U.S.C. § 102(e).

According to amended claim 34, the present invention is an automotive transparent glazing panel as described above. Similarly to the above, Higby does not disclose an automotive transparent glazing panel having a glass composition comprising a primary solar radiation absorbing and colorant portion that contains selenium as well as other compounds. Further, Higby does not disclose the automotive transparent glazing panel having a glass composition comprising the primary and radiation absorbing and colorant portion of claim 34 that has the specified properties such as a luminous transmittance between 35% and 60%.

Because Higby does not contain each and every element in claim 34, it cannot anticipate the glazing panel recited in claim 34. As a result, Applicants respectfully request the withdrawal of the rejection of claim 34 under 35 U.S.C. § 102(e).

Claim 35 depends on claim 34 and recites the present invention in varying scope. There is nothing in Higby that teaches or discloses the invention as recited in claim 34, as further limited by claim 35. As a result, claim 35 is not anticipated by the reference of record. Applicants respectfully request the withdrawal of the rejection of claim 35 under 35 U.S.C. § 102(e).

**B. Rejection over US Patent No. 5,582,455 ("Casariego")**

In the Office Action at page 3, last paragraph, claims 1-17, 19-29, 31-35, and 40-44 were rejected under 35 U.S.C. § 102(b) as being anticipated by Casariego. The Examiner stated that since the composition of

Casariago is the same as those of the claimed invention, it follows that the glasses of Casariago would inherently possess the same total solar infrared transmittance and total ultraviolet transmittance properties. Applicants respectfully traverse the rejection.

### **1. The Casariago Reference**

The Casariago reference discloses a glazing set mounted on an automobile vehicle, comprising a windscreen, front side windows and rear side windows and a rear window, wherein each of the rear side windows, both movable and fixed, and the rear window comprise a glazing pane comprising a colored glass sheet having a thickness of from 2 to 8 millimeters, wherein the colored glass sheet has a composition and, consisting essentially of, as coloring agents: from 0.5 to 1.5%  $\text{Fe}_2\text{O}_3$  (total iron) with FeO content representing from 16 to 55% of the total iron content expressed in the form of  $\text{Fe}_2\text{O}_3$ ; from 0.003 to 0.015% CoO; from 0.025 to 0.09%  $\text{Cr}_2\text{O}_3$ ; and from 0 to 0.0025% Se.

### **2. Traversal of the Rejection**

To anticipate a claim, a single source must contain all of the elements of the claim. See Hybritech Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 1379, 231 U.S.P.Q. 81, 90 (Fed. Cir. 1986).

Amended claim 1 is a blue colored, infrared and ultraviolet radiation absorbing glass composition having a composition comprising a primary solar radiation absorbing and colorant portion as described above. In contrast to the present invention, Casariago discloses a composition for a glass sheet that contains from 0.025 to 0.09%  $\text{Cr}_2\text{O}_3$ . The primary solar radiation absorbing and colorant portion of the present invention does not contain any  $\text{Cr}_2\text{O}_3$ . Further, Casariago does not disclose the glass composition comprising a primary and radiation absorbing and colorant portion of claim 1 that has the specified properties such as a luminous transmittance of 35% up to 70%.

Because Casariago does not disclose each and every element in claim 1, it cannot anticipate the composition of claim 1. As a result, Applicants respectfully request the withdrawal of the rejection of claim 1 under 35 U.S.C. § 102(b).

Claims 2-17, 19-22, and 40-44 directly or indirectly depend on claim 1 and recite the present invention in varying scope. There is nothing in Casariego that teaches or discloses the invention as recited in claim 1, as further limited by claims 2-22, 40 and 41. As a result, claims 2-22, 40 and 41 are not anticipated by the reference of record. Applicants respectfully request the withdrawal of the rejection of claims 2-22, 40 and 41 under 35 U.S.C. § 102(b).

Amended claim 23 is a blue colored, infrared and ultraviolet radiation absorbing glass composition having a composition comprising a primary solar radiation absorbing and colorant portion as described above. Similarly to the above, Casariego discloses a composition for a glass sheet that contains from 0.025 to 0.09%Cr<sub>2</sub>O<sub>3</sub>. The primary solar radiation absorbing and colorant portion of the present invention does not contain any Cr<sub>2</sub>O<sub>3</sub>. Further, Casariego does not disclose the glass composition comprising a primary and radiation absorbing and colorant portion of claim 23 that has the following properties at a thickness of 0.154 inches: a total solar ultraviolet transmittance of 55 percent or less and a total solar infrared transmittance of 35 percent or less.

Because Casariego does not disclose each and every element in claim 23, it cannot anticipate the composition of claim 23. As a result, Applicants respectfully request the withdrawal of the rejection of claim 23 under 35 U.S.C. § 102(b).

Claims 24-29 and 31-33 directly or indirectly depend on claim 23 and recite the present invention in varying scope. There is nothing in Casariego that teaches or discloses the invention as recited in claim 23, as further limited by claims 24-29 and 31-33. As a result, claims 24-29 and 31-33 are not anticipated by the reference of record. Applicants respectfully request the withdrawal of the rejection of claims 24-29 and 31-33 under 35 U.S.C. § 102(b).

According to amended claim 34, the present invention is an automotive transparent glazing panel as described above. Similarly to the above, Casariego discloses a composition for a glass sheet that contains from 0.025 to 0.09%Cr<sub>2</sub>O<sub>3</sub>. The primary solar radiation absorbing and colorant portion of the present invention does not contain any Cr<sub>2</sub>O<sub>3</sub>. Further,

Casariago does not disclose the automotive transparent glazing panel having a glass composition comprising a primary and radiation absorbing and colorant portion of claim 34 that has the specified properties such as a luminous transmittance between 35% and 60%.

Because Casariago does not disclose each and every element in claim 34, it cannot anticipate the automotive glazing panel of claim 34. As a result, Applicants respectfully request the withdrawal of the rejection of claim 34 under 35 U.S.C. § 102(b).

Claim 35 depends on claim 34 and recites the present invention in varying scope. There is nothing in Casariago that teaches or discloses the invention as recited in claim 34, as further limited by claim 35. As a result, claim 35 is not anticipated by the reference of record. Applicants respectfully request the withdrawal of the rejection of claim 35 under 35 U.S.C. § 102(b).

**C. Rejection over US Patent No. 5,851,940 ("Boulos")**

In the Office Action at page 4, last paragraph, claims 1-35 were rejected under 35 U.S.C. § 102(e) as being anticipated by Boulos.

**1. The Boulos Reference**

The Boulos reference teaches a blue colored ultraviolet and infrared absorbing glass composition, having a base glass composition and colorants consisting essentially of: 0.4 to 2.0% total iron oxide as  $\text{Fe}_2\text{O}_3$ ; 0.15 to 2.00% manganese oxide as  $\text{MnO}_2$ ; 0.005 to 0.025% cobalt oxide as Co, and 0 to 1.00% titanium oxide as  $\text{TiO}_2$ , all percentages being based on the weight percent of the total blue glass composition.

**2. Traversal of the Rejection**

To anticipate a claim, a single source must contain all of the elements of the claim. See Hybritech Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 1379, 231 U.S.P.Q. 81, 90 (Fed. Cir. 1986).

Amended claim 1 is a blue colored, infrared and ultraviolet radiation absorbing glass composition having a composition comprising a primary solar radiation absorbing and colorant portion as described above. In contrast to the present invention, Boulos does not disclose a glass composition having a primary solar radiation absorbing and colorant portion that contains selenium as well as other compounds. Applicants have amended claim 1 to positively recite a selenium component of at least 1 PPM.



Further, Boulos does not disclose the glass composition comprising a primary and radiation absorbing and colorant portion of claim 1 that has the specified properties such as a luminous transmittance of 35% up to 70%.

Because Boulos does not disclose each and every element in claim 1, it cannot anticipate the composition of claim 1. As a result, Applicants respectfully request the withdrawal of the rejection of claim 1 under 35 U.S.C. § 102(e).

Claims 2-22 directly or indirectly depend on claim 1 and recite the present invention in varying scope. There is nothing in Boulos that teaches or discloses the invention as recited in claim 1, as further limited by claims 2-22, 40 and 41. As a result, claims 2-22, 40 and 41 are not anticipated by the reference of record. Applicants respectfully request the withdrawal of the rejection of claims 2-22, 40 and 41 under 35 U.S.C. § 102(e).

Amended claim 23 is a blue colored, infrared and ultraviolet radiation absorbing glass composition having a composition comprising a primary solar radiation absorbing and colorant portion as described above. Similarly to the above, Boulos does not disclose a glass composition comprising a primary and radiation absorbing and colorant portion that contains selenium as well as other compounds. Further, Boulos does not disclose the glass composition comprising a primary and radiation absorbing and colorant portion of claim 23 that has a luminous transmittance between 35% and 60% at a thickness of 0.154 inches.

Because Boulos does not disclose each and every element in claim 23, it cannot anticipate the composition of claim 23. As a result, Applicants respectfully request the withdrawal of the rejection of claim 23 under 35 U.S.C. § 102(e).

Claims 24-33 directly or indirectly depend on claim 23 and recite the present invention in varying scope. There is nothing in Boulos that teaches or discloses the invention as recited in claim 23, as further limited by claims 24-33. As a result, claims 24-33 are not anticipated by the reference of record. Applicants respectfully request the withdrawal of the rejection of claims 24-33 under 35 U.S.C. § 102(e).

According to amended claim 34, the present invention is an automotive transparent glazing panel as described above. Similarly to the above, Boulos does not disclose an automotive transparent glazing panel having a glass composition comprising a primary and radiation absorbing and colorant portion that contains selenium. Further, Boulos does not disclose the automotive transparent glazing panel having a glass composition comprising a primary and radiation absorbing and colorant portion of claim 34 that has a luminous transmittance between 35% and 60%.

Because Boulos does not disclose each and every element in claim 34, it cannot anticipate the automotive transparent glazing panel of claim 34. As a result, Applicants respectfully request the withdrawal of the rejection of claim 34 under 35 U.S.C. § 102(e).

Claim 35 depends on claim 34 and recites the present invention in varying scope. There is nothing in Boulos that teaches or discloses the invention as recited in claim 34, as further limited by claim 35. As a result, claim 35 is not anticipated by the reference of record. Applicants respectfully request the withdrawal of the rejection of claim 35 under 35 U.S.C. § 102(e).

**D. Rejection over US Patent No. 5,994,249 ("Graber")**

In the Office Action at page 5, second paragraph, claims 1-33, 40, and 41 were rejected under 35 U.S.C. § 102(e) as being anticipated by Graber. The Examiner stated that since the composition of Graber is the same as those of the claimed invention, it follows that the glasses of Graber would inherently possess the same dominant wavelength and excitation purity.

**1. The Graber Reference**

The Graber reference teaches an ultraviolet and infrared radiation absorbing blue glass composition comprising a soda-lime-silica base glass composition and a colorant portion consisting essentially of from 0.5% to 0.9% total iron (expressed as  $\text{Fe}_2\text{O}_3$ ); from 50 to 100 PPM (by weight)  $\text{CoO}$ ; and from 0.1% to 2.0% (by weight)  $\text{TiO}_2$ .

**2. Traversal of the Rejection**

To anticipate a claim, a single source must contain all of the elements of the claim. See Hybritech Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 1379, 231 U.S.P.Q. 81, 90 (Fed. Cir. 1986).

Amended claim 1 is a blue colored, infrared and ultraviolet radiation absorbing glass composition having a composition comprising a primary solar radiation absorbing and colorant portion as described above. In contrast to the present invention, Graber does not disclose a glass composition having a primary solar radiation absorbing and colorant portion that contains selenium as well as other compounds. Applicants have amended claim 1 to positively recite a selenium component of at least 1 PPM.

Further, Graber does not disclose the glass composition comprising a primary and radiation absorbing and colorant portion of claim 1 that has the specified properties such as a luminous transmittance of 35% up to 70%.

Because Graber does not disclose each and every element in claim 1, it cannot anticipate the composition of claim 1. As a result, Applicants respectfully request the withdrawal of the rejection of claim 1 under 35 U.S.C. § 102(e).

Claims 2-22, 40 and 41 directly or indirectly depend on claim 1 and recite the present invention in varying scope. There is nothing in Graber that teaches or discloses the invention as recited in claim 1, as further limited by claims 2-22, 40 and 41. As a result, claims 2-22, 40 and 41 are not anticipated by the reference of record. Applicants respectfully request the withdrawal of the rejection of claims 2-22, 40 and 41 under 35 U.S.C. § 102(e).

Amended claim 23 is a blue colored, infrared and ultraviolet radiation absorbing glass composition having a composition comprising a primary solar radiation absorbing and colorant portion as described above. Similarly to the above, Graber does not disclose a glass composition comprising a primary and radiation absorbing and colorant portion that contains selenium. Further, Graber does not disclose the glass composition comprising a primary and radiation absorbing and colorant portion of claim 23 that has a total solar infrared transmittance of 35 percent or less at a thickness of 0.154 inches.

Because Graber does not disclose each and every element in claim 23, it cannot anticipate the composition of claim 23. Applicants

respectfully request the withdrawal of the rejection of claim 23 under 35 U.S.C. § 102(e).

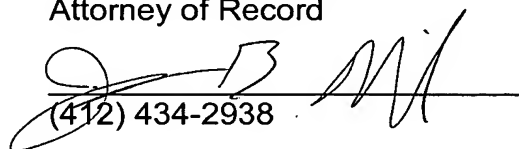
Claims 24-33 directly or indirectly depend on claim 23 and recite the present invention in varying scope. There is nothing in Graber that teaches or discloses the invention as recited in claim 23, as further limited by claims 24-33. As a result, claims 24-33 are not anticipated by the reference of record. Applicants respectfully request the withdrawal of the rejection of claims 24-33 under 35 U.S.C. § 102(e).

## II. CONCLUSION

In light of the amendments and remarks presented in this correspondence, Applicants respectfully request withdrawal of the following rejections: the rejection of claims 1-35, 40, and 41 under 35 U.S.C. § 102(e) as being anticipated by Higby; the rejection of claims 1-17, 19-29, 31-35, and 40-44 under 35 U.S.C. 102(b) as being anticipated by Casariego; the rejection of claims 1-35 under 35 U.S.C. § 102(e) as being anticipated by Boulos; and the rejection of claims 1-33, 40, and 41 under 35 U.S.C. § 102(e) as being anticipated by Graber; and allowance of claims 1-35 and 40-44. If any questions remain about this application, the Examiner is requested to contact Applicant's attorney at the telephone number provided below. Thank you.

Respectfully submitted,

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